

## Password Strength

A good password needs to meet multiple criteria ([https://en.wikipedia.org/wiki/Password\\_strength](https://en.wikipedia.org/wiki/Password_strength)) to make it difficult to guess. Those criteria include... (In this question, you only need to consider English language password)

1. Must have at least 8 characters
2. Must have at least 1 Uppercase letter, 1 Lowercase letter, 1 Number, and 1 other Symbol
3. Must not have the same 4 consecutive characters
4. Must not have 4 consecutive number in ascending or descending order, such as **0123, 2345, 7890, 0987, ...**
5. Must not have 4 consecutive letter in ascending or descending order, such as **abcd, wXYZ, ZYxW, ...**
6. Must not have 4 consecutive character that are next to each other on keyboard, whether it's from left to right or right to left, such as **ASDF, qwer, REWq, !@#\$, ...**

Reference from a picture below, you only have to consider order of button in horizontal row (Pink highlight)



Write a program to receive password to analyze which criteria this password is missing

## Input

Password as String value on a single line

## Output

List of messages that describe missing criteria of input password (If there are multiple missing criteria, show it in the order specified below (one on each line)).

- If missing the 1<sup>st</sup> criteria, show
- If missing the 2<sup>nd</sup> criteria (Lowercase), show
- If missing the 2<sup>nd</sup> criteria (Uppercase), show

**Less than 8 characters**

**No lowercase letters**

**No uppercase letters**

- If missing the 2<sup>nd</sup> criteria (Number), show **No numbers**
- If missing the 2<sup>nd</sup> criteria (Symbol), show **No symbols**
- If missing the 3<sup>rd</sup> criteria, show **Character repetition**
- If missing the 4<sup>th</sup> criteria, show **Number sequence**
- If missing the 5<sup>th</sup> criteria, show **Letter sequence**
- If missing the 6<sup>th</sup> criteria, show **Keyboard pattern**
- If all criteria are met, show **OK**

## Example

Input (from keyboard)	Output (on screen)
pass	Less than 8 characters No uppercase letters No numbers No symbols
QWERTY1234&	No lowercase letters Number sequence Keyboard pattern
abcd9999	No uppercase letters No symbols Character repetition Letter sequence
ILoveProgrammingInPython2110101\$	OK

## Hint

This program has many different analyzing part. You can use function to organize the code and make correcting error easier. Such as a code format below

```
def no_lowercase(t): # return True if no lowercase, otherwise return False
...
def no_uppercase(t):
...
def no_number(t):
...
def no_symbol(t):
...
def character_repetition(t):
...
def number_sequence(t):
...
def letter_sequence(t):
...
def keyboard_pattern(t):
...
#-----
passwd = input().strip()
errors = []
if len(passwd) < 8:
    errors.append("Less than 8 characters")
if no_lowercase(passwd):
    errors.append("No lowercase letters")
if no_uppercase(passwd):
...
if len(errors) == 0:
...
else:
...
```